Leveraging on Global Best Practices to Achieve Quantum Leaps in Productivity

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Moving Management from the Industrial Age to the Information Age

If there is an upside to the bursting of the technology bubble of the late 1990s, it's that business is once again about 'business'. It's no longer about e-business or m-business or u-business or web-enabled business or Internet Speed or sticky web pages or cookies, but just business.

The challenge of running a successful business has never been bigger: it's about creating a product that is competitive, but profitable; staying one step ahead of rivals; delivering the product on time; being innovative and relentlessly expanding market share.

Ultimately, hitting those marks is not about the speed of your Internet connection or the capacity in your server rack. In fact, what many businesses found as they attempted to transform themselves into "e-businesses" is that more speed and capacity only made things worse. Instead of just making 1,000 widgets that were the wrong size, their automated assembly line made a million and instead of having them sitting on the loading dock, they'd already been delivered to customers because of the improved distribution system. For many companies, the automated supply chain transformed small mistakes into big ones and burned through millions of dollars doing it.

The result can be found in the stock section of the business pages: hundreds of companies that at one time traded for hundreds of dollars a share, now trade at the price of a Coke. The Internet, software and mobile technology are all powerful tools but they are only that, tools. Running a successful business is not an operation that can be outsourced on an ASP or given to a "free agent" contractor, it is a constant battle to make improvements, cut inefficiencies and increase margins.

The real revolution in business isn't the Internet or some other new technology. It's about approaching the same fundamental issues that have always challenged business owners in an entirely new way: by moving from a traditional functional organisational structure of management to a process view of management. The change is a fundamental paradigm shift that is being driven by a shift in business imperatives as we exit the Industrial Age and enter the Information Age. It will force managers to change how they view their companies, their employees and themselves, or risk being outpaced by those who can.

The functional view sees a business as the sum of five separate functions - engineering, sales, finance, manufacturing and human resources. Each functional team does its job independently and is only accountable for it's own performance. In theory, if each functional team in the company performs as the CEO instructs, the results of each team will come together in the end and the business will prosper.

The process view contends that the five functions are not separate at all, but profoundly connected and that the key to the performance of any single team inevitably lies in all of the other teams. Under this point of view, you don't just look in the sales division to solve a sales problem, because the problem is not a sales' problem, but a problem with the entire process, which means everyone's responsibility. Under this perspective, sales cannot be meaningfully viewed outside of engineering or human resources, finance or manufacturing, so a team drawing from each of those functions is formed to find the problem and solve it.

Process management is a radically different way of running a business and it was created to address radical changes that have been shaking the business world for the last 50 years. While process management was considered novel and innovative 20 years ago, many now consider it necessary just for survival in a global economy where competition is relentless and rivals quickly exploit any inefficiency.

I believe that process management is the key strategy that businesses will have to master to continue to prosper in the new millennium. It is a management structure that applies across all industries and even to governments, which like businesses, are being forced to confront new realities daily and are faced with accommodating them or become irrelevant.

To understand the significance of process management, and the potential it holds for the enterprise that can apply it, we first have to understand the causes and effects of functional management.

Functional Management and the Industrial Age

Traditional business management adopted a rigid hierarchical structure because that was the only model that existed at the beginning of England's Industrial Revolution when truly large, multinational, industrial businesses such as railroads, mining and shipping were first created. If you had to manage a company with hundreds or thousands of employees there were only three organisational examples to draw from: the military, the church and the monarchy, all of which were hierarchical management systems strictly divided by function.

At their simplest, these Industrial Age businesses bought raw materials and parts, turned them into a product, and finally sold the product to a customer. The formula was "Buy - Make - Sell" in quantities large enough to take advantage of economies of scale. This company usually made a long lifecycle, standardised product and sold it to a mass market through a single distribution system. Demand was predictable and lowering prices was the traditional way to increase consumer demand.

This top down, autocratic management structure had predictable results. In large companies these functional teams became virtual fiefdoms; competitive, isolated and suspicious of each other as they fought for budget, bonuses and promotions from top management. The structure promoted an unhealthy competition because the teams were independent of each other and not accountable for meeting a common goal, managers stood to benefit more when a competitor on another team did poorly, even if it meant the company as a whole did poorly.

This sort of combative, competitive ethic permeated the entire supply chain. On the one hand the Industrial Age Company wished to be liked by its customers, yet feared by its suppliers. Not surprisingly, this behavior creates dysfunctional relationships and conflict at every stage of the product cycle.

This management structure worked well for several hundred years because these businesses shared something else with the military, the church and the monarchy - a lack of competition. Local, national and global industrial markets were in their infancy and the limited communication and means of distribution made for minimal competition and very inefficient local economies.

When competition did become a factor, these early industrial giants did what industrial giants still seek to create today - a monopoly. There's no need to worry about efficiency when you own all the coal and all the railroads it's carried on, as the railroad barons in the US industrial revolution discovered. While monopolies still exist, the press and a more vigilant government make it much more difficult for would be tycoons than it once was. These companies also sought shelter in trade barriers that effectively balkanized the world's commerce for hundreds of years, protecting local industries and preventing true competition.

With little competition, there was little reason to change from the accepted norm. The military corollary would be the British Army, which marched into battle in straight lines wearing red jackets at the dawn of the Industrial Age. While that tactic seems suicidal today, at the time they were fighting other people who marched in straight lines or people who didn't have guns, all of which gave them little reason to change.

The functional management system was based on an organizational structure designed to allow an entity that had little competition to maintain control and remain in power. It was not designed to foster innovation or efficiency or to produce a particularly good product and as we enter the Information Age, that is becoming increasingly clear.

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Process Management, the Information Age and the Global Economy

The dawn of the Information Age is sounding the death knell for the Industrial Age functional management structure, because in an economic system information and inefficiency are like oil and water, they don't mix well.

Early in the 20th century economist John Maynard Keynes created an economic theory called the perfect market. The theory was that discrepancies in price of essentially identical products are due largely to poor information, and that if everyone had "perfect information" these discrepancies - profit margins to a business - would fall to zero. At the time the idea was considered purely theoretical because geographical and technical limitations made that ideal market all but impossible.

With the advent of globalisation, the continuing elimination of trade barriers, sophisticated distribution systems and the Internet and other telecommunications technologies, we are coming much closer to a perfect market than anyone ever dreamed and that is what is driving business away from functional management.

This hyper competitive atmosphere is the polar opposite of the inefficient economy that spawned the Industrial Age functional management structure. The market isn't a single town, state or country but the entire world. Likewise, suppliers are scattered around the globe and also supply many of your competitors. Product life cycles are extremely short and constant technology innovation threatens to give competitors an edge in product development that could render your product obsolete over night. This intensely competitive environment also creates unpredictable demand, as does a customer base that demands constant upgrades and changes to the product and a just-in-time delivery so they can keep their inventory low.

As companies adapt to these new competitive demands, governments are increasingly being pressured to follow suit and revamp their state-owned enterprises (SOEs) because they can no longer afford to keep inefficient and unprofitable companies operating.

For example, the United Kingdom has acknowledged the competitive challenge its public companies face, and is rapidly selling off control and saving the subsidies that came with nationalisation. Brazil and other South American countries also recognize the need to change. The largest Asian example is the People's Republic of China, (PRC), which has begun the journey to open many industries-such as steel, chemicals, textiles and oil-to competition in the New Economy.

Even government agencies that are unlikely to ever be privatised are being pressured to increase efficiency and be more responsive to customers. For instance, taxpayers want to pay taxes quickly and painlessly online and want to get special breaks for doing so. Defence departments benchmark the efficiency and speed of deployment against real and imagined enemies. Investment promotion agencies look for innovative ways not just to attract investors, but also to keep them, the same way private enterprise strives to hold onto its profitable customers.

Trying to compete in the Information Age a functional management structure is like marching to battle in a straight line against a guerilla army: for your competitors it's less a battle than simple target practice.

To evolve from an Industrial Age management structure to an Information Age structure requires sweeping changes for a company, both internally and externally, with its suppliers, partners and customers. I have studied over 300 companies to make this transition and in the process identified a common set of paradigm shifts that companies must make to successfully navigate this management evolution.

Changing to a Process Management Structure

Generally speaking, you don't change a paradigm by sending out a memo, especially something as ingrained as functional management, which people have literally grown up with, from school to government to work, all their lives. The transformation is a gradual shift as people begin to work with a new system, realise some success and are recognized for it, and gain the confidence to let go of old ways and begin to embrace new ones.

The 300+ companies in the study to made the transition using a detailed methodology that helps guide management and staff through this rewarding but challenging process. No single step or achievement brings the management structure from functional to process-oriented, but each one is designed to support and move the process forward and together they catalyse a dynamic change that is quickly felt throughout the entire enterprise.

Teams and Tasks

While the approach to this transition has many facets, it is at its core, very straightforward: an enterprise creates and manages cross-functional, collaborative teams that are charged with solving key problems that are facing the company. However, throughout the process one must look at every level of transformation that is necessary and lead cultural change from the beginning of the engagement.

The tasks are determined by the Business Improvement Team (BIT), which consists of the CEO's direct reports from each functional team, sales, engineering, finance, human resources and manufacturing. The members of the BIT team then become leaders of the Cross Function Teams (CFTs) which are comprised of personnel from each functional area and are charged with solving the problem.

The CFTs, BRTs, or Barrier Removal Teams, and subprocess teams are the engines that drive the process. They're where the hard work begins and managing and organising that collaborative problem-solving process is the key to the success of the whole effort. One of the BIT's main roles is to provide focus and keep the group on track. For instance, the CFTs are given strict parameters to focus on: driving the time, quality and cost of whatever process they are charged with looking at and they can't hire new people or buy new equipment to solve a problem.

The first steps of the CFT are key to changing employees' perception of the management structure because they themselves create a new process oriented structure, giving them ownership of the process from the start.

First they identify the process they are charged with changing, they establish where the process begins and ends in relation to the entire process of bringing product to market, and they map the process out in detail. Then the team establishes new performance metrics that are based solely on measuring how the process works, not on a particular functional area. They establish which steps are adding value and which are not and begin to identify barriers to the process and the causes and effects of those barriers.

The CFTs then create BRTs that are tasked, and given the authority to act, in removing the barriers. The CFT may also find that the root of the problem is in a sub-process. For instance order management and supply chain management forecasting are both sub-processes of sales. If the problem lies in one of these areas, a separate subprocess team may be created by the CFT to deal with that issue.

Removing barriers is not simple. Inevitably there is a cost involved. One must help the teams measure the cost of the barrier on productivity and contrast that to the cost and value of removing it. Normally the cost of removing a barrier is far less than keeping it. All barriers hide other barriers, create substitute processes or work-arounds that take a tremendous toll on productivity.

Letting the Process Work

It is at this point, when the plan leaves the CFT's charts and note pads and starts showing up on the manufacturing floor or in the finance department that the process really gets challenging. Functionally organised corporations have had their soldiers marching in a straight line for hundreds of years and any effort to change that is sure to meet with strong resistance from many corners. Resistance will be particularly strong if an initial effort falls short or even fails outrightly.

It's crucial that CFTs are given the authority to make the changes needed to achieve their goals and that they can execute those solutions without fear of reprisals if the outcome is not ideal. This is where the entrenched functional culture is most challenged and where the CEO must show strong commitment to the process if it is to succeed.

Apart of this successful and proven method is a strong communications program that assures employees that the CEO is behind the changes. This step must be a priority in the transformation process and the CEO as well as the BIT usually guide it.

The above description is a thumbnail sketch of a process that is probably the most ambitious, and potentially the most rewarding, that a company will ever take on. Functional management pervades our lives and is central to who we are. Changing that ingrained tendency to function as a cog in a wheel, rather than as the wheel itself, is a steep challenge. However, my experience has been that

if a company is disciplined and faithful to the process they will not only see problems X, Y and Z solved, but they will see their company undergo four fundamental paradigm shifts that will permanently transform their organisation.

The Four Process Paradigms

The Shift from a Functional View of Business to a Process View of Business

The key question with any major strategic shift like this is can the change be sustained? In this process, more specifically, the question is: has the workforce not just changed the way they do their jobs, but changed the way they think about their jobs and about how the company functions as a whole? Do they truly see themselves as empowered with part of a larger process?

My 22 years of experience tells me that the answer to that is overwhelmingly "yes." The program leads to a sustained and profound shift of people's view of themselves and their jobs and that shift results in a quantum leap in performance. I believe the reason for our success is simple: people want to be empowered, they want to be recognised and they want to succeed and see things run well. Process oriented management is designed to facilitate that, as much as functional management is designed to foster a stable, static, hierarchy that perpetuates the status quo.

It is by employees embracing this system that the functionally based fiefdoms will fade away and each department will literally become part of, and contribute to, the success of the entire enterprise. Top-down management will give way to a process-oriented, customer-focused management that looks to the key drivers - time, cost and quality - as well as relevant process metrics to judge success, find and solve problems.

The process system will drive competition within the company, but it will be healthy competition that will benefit the entire company, not just a single person. For example, in a process oriented company a salesperson would want to understand the entire process of production, from conception through procurement, fulfillment, and distribution and after sales processes because he could be measured in part on how well he supplies that information to the organisation.

Many process-oriented companies include such a measure in the sales incentive and bonus plans. Some companies, especially those in the distribution business, even hold the sales force responsible for finished goods inventory. The sales man forecasts what he needs to sell and is responsible therefore, for what is left and not sold.

The shift in the hearts and minds of the workforce from functional management to process management drives behavior that is good for the entire company, not just a single functional unit.

2. *The Shift from Reliance on Individual Experts to a Dependence on Cross-functional Teams*

While experts will always be critical to an organisation's success, process management-oriented companies get the most out of these individuals by using them on teams where they are exposed to other parts of the enterprise. In a functional environment these individuals are often hidden away and jealously guarded in a functional group so that all of their time will be spent furthering the goals of that group.

Working with a team, experts can operate without the boundaries that their narrow function imposes on them, providing valuable input that is relevant to overall corporate strategy and goals, not just their functional area. For example, when an engineer regularly works with the purchasing department during a design process, he learns more about the resources available from suppliers, which can ultimately lead to a better product, potentially reducing the cost, improving the design or streamlining the production logistics.

Aerospace uses the team concept internally regularly. A team of engineers, planners and procurement buyers worked together to develop the Boeing 777 aircraft landing gear. By combining their expertise, this team reduced costs of development, production and shipment significantly.

3. *The Shift from a Combative Culture to a Collaborative Culture*

One often sees something I call the internal "finger pointing" practice. Sales blames manufacturing for late delivery to a client and manufacturing passes on the blame to purchasing who then throws the issues outside to a supplier that failed to perform to contract. This prevents a company from understanding the root cause of a dilemma and from taking the proper actions to prevent it from happening again. Implementing measures that track an order from a process perspective across all functions allows a company to realise where in the process things start to go wrong. Measuring the time it takes for an order to pass through to a supplier also shows why, in many cases, a supplier has to rush an order to satisfy his/her contractual obligation because the client failed to plan correctly.

A combative culture can lead to tremendous inefficiencies. One company I recently finished an engagement with required five management signatures on all purchase orders. Purchasing needed two signatures to place an order; quality also had to sign in agreement, even though there was an approved list of suppliers .Thereafter finance then performed an audit and signed even though there was a buyer spending procedure in place. Finally, engineering had to verify that the purchase was to specification and signed off on it.

This procedure had been implemented years before to prevent purchasing mistakes at a time when there were a number of new buyers in the purchasing department. But the procedure was never changed, and while accuracy was 99 percent, the system fostered hostility among purchasing personnel who felt they were not trusted. It also impaired their performance because it was difficult to get deliveries into the plant on time because of the extensive signature process.

The BIT addressed this bottleneck by making the buyers responsible for placement of the order and reducing signature requirements to just two managers and/or their designees. This cut cycle time by over 90% and enabled the buyers to be more proactive in getting deliveries on time. The bottom line was a 20% improvement in on-time, complete deliveries by the suppliers.

4. *Creating the Boundless Enterprise: Applying the Three Paradigms Externally to the Supply Chain*

The fourth paradigm shift requires the company to take the same philosophy that they've been applying on internal operations and apply it externally, creating what I call a boundless view of the enterprise that includes suppliers, customers and all other organisations in the supply chain. Each process includes and considers every entity internal and external, in the supply chain and as a result every entity is collectively part of creating success.

One must believe this fourth paradigm shift is the major, defining paradigm shift of the New Economy. It requires the enterprise to take the principles of the first three paradigms and apply externally:

For instance, to a salesman who's adopted the process view of business, as opposed to a functional view, he is not just a link to the next phase of the process in his company, but to his customer and his customers' customer. Likewise, the procurement buyer becomes the link to the supplier and on to the suppliers' supplier.

A boundless enterprise also extends the power of cross-functional teams beyond just the employees and includes suppliers and customers to participate to gain the benefit of their point of view. Boeing applied this strategy when it invited customers, pilots and cabin crew to help design the new 777. The company also sat down with component manufacturers and their suppliers to ensure that best practices were used in designing and manufacturing component parts. For example, the need for landing gear to be exceptionally strong, but light, was discussed. As a result, a supplier proposed a new Titanium alloy that saved hundreds of pounds of weight but retained the needed strength and durability. The revolutionary landing gear on the 777 fleet is an example of how the entire Supply Chain helped design one of the most advanced aircrafts in the world.

This shift from a combative to a collaborative culture results not just in better, more cooperative relationships with suppliers, but goes directly to the bottom line. The previously mentioned client that needed five signatures to purchase something had a host of other problems related to on time delivery as well, 70 percent of which they created themselves. By creating a collaborative team with its supplier family, that company was able to remove those barriers and now receives on time and complete deliveries 98 percent of the time.

Conclusion

An inevitable confusion in Supply Chain Process Value Management is caused because of all of the different definitions that are floating around about supply chain management, one of the hot business buzzwords of the moment. According to many people, the supply chain begins once the

product has been manufactured. Others tend to define it as the activities leading up to production.

I dismiss both definitions because they are fundamentally at odds with our process-oriented view of the enterprise. From my point of view, a product's journey from raw material to a customer's hands is business, and it cannot be separated from human resources, research and development, accounts receivable or any other part of the enterprise.

For a business to succeed in the 21st century, its executives must realise that all these functions are integral to the process of bringing a product to market, and that no software or web-enabler or consultant is going to help their business by automating what they call "the supply chain." Supply chain management is not simply a cost-focused objective of procurement, but a strategic process that spans the entire business. An automated supply chain that is not supported by sound, fundamental business processes is like a racing car without a steering wheel: useless at best, dangerous at worst.

Another shortcoming of supply chain management, as it is often defined today, is that it's seen only as a way to cut costs, when strategically I believe it should also be approached as an opportunity to add value through a method we call "Process Value Management".

Corporate management is undergoing the most tumultuous changes it's ever experienced since it was born in London hundreds of years ago. It's a time of tremendous opportunity for those who are ready to follow business into the Information Age, and significant peril for anyone who is unwilling to budge from the Industrial Age functional paradigm. While many of these concepts may seem radical when you consider applying them to your own business, I can assure you that the path is well worn at this point. I mentioned that many companies have made this transition. Some of their stories are given below:

The following is an example of how all the studied companies measure each supply chain driver based on responsiveness and quality. This chart provides a cockpit-like snapshot of how well the supply chain is performing. The process-based measurements portray, for a CEO, the trends in value management and cost control that he needs to administer effectively.

The "PROCESS DRIVERS" indicate the time and quality of the forecast, procurement, supplier and acceptance sub processes of the supply chain process. The "PROCESS RESULTS" indicate how the freight and material costs are improving. The cost of ownership, or the expenditures associated with managing suppliers and inventory, are also measured. The inventory turn rate in the top left-hand corner is in this example, showing improvement as this client benefited from collaborative agreements with suppliers that were becoming partners. The central upper panel measures the primary result, in this case, the on time delivery to the end customer. As you can see, there is an improvement in this measure while the costs are being controlled. This is what supply chain management is all about.

The historical "Baseline", usually a six or twelve month average gives a CEO the ability to establish targets, through bench marking or a best-case scenario, and to then focus the entire organization on reaching what we call "Entitlement". Entitlement is the process improvement targets that can be reached with no additional investment in resources.

Lessons Learned

What are the lessons of process management of the supply chain? First, the "Boundless Enterprise" defines the essence of the New Economy. Viewing Supply Chain Management in this context creates enormous opportunity for new sources of value improvements and cost reductions. Next, a process management approach, what we call "Process Value Management", is the most effective way to shift an organization from a functional to a process oriented.

It is my experience that with two ingredients, a high level of collaboration and an effective means of managing value, profitability across the extended Supply Chain is not only possible, it is inevitable.

Global Supply Chain KMC Chart